

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/824,353	04/02/2001	Karl E. Guyler	209193	9369

23460 7590 10/21/2004

LEYDIG VOIT & MAYER, LTD
TWO PRUDENTIAL PLAZA, SUITE 4900
180 NORTH STETSON AVENUE
CHICAGO, IL 60601-6780

EXAMINER	
BAKER, CHARLOTTE M	

ART UNIT	PAPER NUMBER
2626	

DATE MAILED: 10/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/824,353	GUYLER, KARL E.	
	Examiner	Art Unit	
	Charlotte M Baker	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-20 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-20 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 02 April 2001 is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 04/02/2001.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because Figure 6 is displayed in an informal manner. Applicant is advised to employ the services of a competent patent draftsperson outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "84" and "86" have both been used to designate "memory". On page 17, line 1, memory is designated as item "84". On Figure 6, "memory" is designated as item "86". Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities: remove the word "of" in the phrase "represents of the color gamut" (page 11, line 20).

Appropriate correction is required.

4. Claim 9 is objected to because of the following informalities: page 19, line 19 "additional" should be "addition". Appropriate correction is required.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 11-13, and 19-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Wan et al. (5,625,378).

Regarding claim 1: Wan et al. disclose conversion from color signal 30 to color signal 34 used as points to form a convex hull (column 4, lines 17-38), which reads on "providing a plurality of color data points"; smooth mapping of convex hulls dealing with a source space and a target space (column 6, lines 66-67 and column 7, lines 1-20), which reads on "constructing a convex hull in an additive color space based on the color data points" and "transforming the convex hull into a corresponding solid object in a psychometric color space"; gamut descriptor (column 4, lines 17-30 and Figure 4), which reads on "presenting the solid object as a color gamut corresponding to the color data points".

Regarding claim 11: Wan et al. satisfy all the elements of claim 1. Wan et al. further disclose CIE XYZ color space (column 7, lines 25-40), which reads on "wherein the additive color space is the CIE XYZ color space".

Regarding claim 12: Wan et al. satisfy all the elements of claim 1. Wan et al. further disclose CIE Lab color space (column 8, lines 64-67 and column 9, lines 1-15), which reads on "wherein the psychometric color space is the CIE Lab color space".

Regarding claim 13: Arguments analogous to those stated in the rejection of claim 1 are applicable. In addition, Wan et al. disclose a computer (column 3, lines 66-67) and computing and convex interpolation involved in the convex hull (column 6, lines 56-67 and column 7, lines 1-20), which constitutes "a computer readable medium having computer readable instructions".

Regarding claim 19: Wan et al. satisfy all the elements of claim 13. Arguments analogous to those stated in the rejection of claim 11 are applicable.

Regarding claim 20: Wan et al. satisfy all the elements of claim 13. Arguments analogous to those stated in the rejection of claim 12 are applicable.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 2, 3, and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wan et al. in view of Georgiev (6,573,889).

Regarding claim 2: Wan et al. satisfy all the elements of claim 1.

Wan et al. fail to specifically address displaying the color gamut on a display. Georgiev discloses displaying a first color gamut (column 12, lines 23-25), which reads on "wherein the step of presenting includes displaying the color gamut as a first three-dimensional object on a display for visualization". It would have been obvious for a person of ordinary skill in the art at the time of the invention to use the suggestion of Georgiev to visually display a color gamut to

provide the user with the ability to quickly identify colors within the first color gamut that do not fall within the second color gamut (column 3, lines 30-33).

Regarding claim 3: Wan et al. in view of Georgiev satisfy all the elements of claim 2. Georgiev further discloses displaying the first color gamut in conjunction with the second color gamut (column 12, lines 20-30), which reads on "wherein the step of displaying a second color gamut as a second three-dimensional object on the display together with the first three-dimensional object for comparing said color gamuts".

Regarding claim 14: Wan et al. satisfy all the elements of claim 13. Arguments analogous to those stated in the rejection of claim 2 are applicable.

Regarding claim 15: Wan et al. in view of Georgiev satisfy all the elements of claim 14. Arguments analogous to those stated in the rejection of claim 3 are applicable.

8. Claims 4 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wan et al. in view of Georgiev and further in view of Kumada (EP665682A2).

Regarding claim 4: Wan et al. in view of Georgiev satisfy all the elements of claim 2.

Wan et al. in view of Georgiev fail to specifically address displaying the object as colored. Kumada discloses the checked color reproduced on the color monitor 1 (column 10, lines 36-44), which reads on "wherein the step of displaying displays the three-dimensional object as colored according to colors of the color gamut". It would have been obvious for a person of ordinary skill in the art at the time of the invention to use the suggestion of Kumada to enable the user to visualize the colors included in the color gamut.

Regarding claim 16: Wan et al. in view of Georgiev satisfy all the elements of claim 14. Arguments analogous to those stated in the rejection of claim 4 are applicable.

9. Claims 5-7, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wan et al. in view of Cholewo (6,480,301).

Regarding claim 5: Wan et al. satisfy all the elements of claim 1.

Wan et al. fail to specifically address the surface characteristics of the convex hull. Cholewo disclose the surface (column 4, lines 2-11), which reads on "wherein the step of constructing includes generating surface points on faces of the convex hull, and wherein the step of transforming transforms the surface points into corresponding surface points for defining curved faces of the color gamut". It would have been obvious for a person of ordinary skill in the art at the time of the invention to include the suggestion of Cholewo to provide a suitable approximation to the color gamut surface (column 4, lines 8-11).

Regarding claim 6: Wan et al. in view of Cholewo satisfy the elements of claim 5. Cholewo further discloses a computing operation that results in convex hull triangles (column 4, lines 20-26), which reads on "wherein the step of generating generates the surface points by subdividing faces of the convex hull into smaller faces".

Regarding claim 7: Wan et al. satisfy all the elements of claim 1. Cholewo further discloses computing the volume of a color gamut (column 5, lines 49-53), which reads on "further including the step of calculating a volume of the color gamut".

Regarding claim 17: Wan et al. satisfy all the elements of claim 13. Arguments analogous to those stated in the rejection of claim 7 are applicable.

10. Claims 8-9, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wan et al. in view of Hains et al. (6,724,500).

Regarding claim 8: Wan et al. satisfy all the elements of claim 1.

Wan et al. fail to specifically address measurement of printed color samples. Hains et al. disclose a colorimeter and printed color samples (column 6, lines 15-40), which reads on "wherein the step of providing includes measuring printed color samples to generate the color data points". It would have been obvious for a person of ordinary skill in the art at the time of the invention to include the suggestion of Hains et al. to minimize the perceptible difference between the source color and the target color (column 5, lines 64-66).

Regarding claim 9: Wan et al. in view of Hains et al. satisfy all the elements of claim 8. Hains et al. further disclose color samples corresponding to the printer colors cyan, magenta, yellow, green, blue, black, and red (column 7, lines 4-14), which reads on "wherein the printed color samples are printed using at least one ink color in addition to yellow, cyan, magenta, and black".

Regarding claim 18: Wan et al. in view of Hains et al. satisfy all the elements of claim 13. Hains et al. disclose a color-correction system 17 (column 5, lines 21-35), which constitutes "a computer-readable medium" and arguments analogous to those stated in the rejection of claim 9 are applicable.

11. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wan et al. in view of Hains et al. and further in view of Herbert et al. (5,734,800).

Regarding claim 10: Wan et al. in view of Hains et al. satisfy all the elements of claim 9.

Wan et al. in view of Hains et al. fail to specifically address a 6-color ink system. Herbert et al. disclose 6-color printing (column 9, lines 18-26), which reads on "wherein the printed color samples are printed using a 6-color ink system". It would have been obvious for a person of ordinary skill in the art at the time of the invention to include the suggestion of Herbert et al. to create a high fidelity color system that communicates with a wider range of tones, more precise tones and cleaner more brilliant hues (column 4, lines 7-10).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charlotte M Baker whose telephone number is (703) 306-3456. The examiner can normally be reached on Monday-Friday 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly A Williams can be reached on (703) 305-4863. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cmb CMB KA Williams

KIMBERLY WILLIAMS
SUPERVISORY PATENT EXAMINER